

## CLAIMS

1. Circuit to reduce the variations of the auto-supply voltage ( $V_{cc}$ ) of a control circuit (12) of a switching power supply where said control circuit (12) supplies an activation or deactivation signal for a power transistor comprising: a generator ( $W_a$ ) of said auto-supply voltage ( $V_{cc}$ ); characterised in that it comprises a controlled switch (T) capable of selectively connecting said generator ( $W_a$ ) to said control circuit (12); and a driving circuit (SW2) of said controlled switch (T) that supplies a closing signal of said controlled switch (T) after a predefined time delay ( $T_d$ ) starting from said deactivation command.
2. Circuit in accordance with claim 1 characterised in that it comprises a circuit generator ( $I_{ch}$ , C, SW1) that generates said predefined time delay.
3. Circuit in accordance with claim 1 characterised in that said circuit generator ( $I_{ch}$ , C, SW1) generates said predefined time delay proportionally to a voltage ( $V_{comp}$ ) proportional to the load of said switching power supply.
4. Circuit in accordance with claim 1 characterised in that it comprises a first comparator (COM1) that compares a voltage ( $V_{comp}$ ) proportional to the load of said switching power supply with a first reference voltage ( $V_{t1}$ ), said predefined time delay ( $T_d$ ) is substantially nil when said voltage ( $V_{comp}$ ) proportional to the load of said switching power supply is lower than said first reference voltage ( $V_{t1}$ ).
5. Circuit in accordance with claim 1 characterised in that it comprises a second comparator (COM2) that compares a voltage ( $V_{comp}$ ) proportional to the load of said switching power supply with a second reference voltage ( $V_{t2}$ ), said controlled switch (T) remains open when said voltage ( $V_{comp}$ ) proportional to the load of said switching power supply is higher than said second reference voltage ( $V_{t2}$ ).
6. Circuit in accordance with claim 1 characterised in that said drive circuit (12) of said controlled switch (T) supplies an opening signal of said

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controlled switch (T) starting from said activation command.

7. Switching power supply comprising a circuit for reducing the variations of the auto-supply voltage of the control circuit of a switching power supply in accordance with claim 1.

5           8. Method for reducing the variations of the auto-supply voltage ( $V_{cc}$ ) of a control circuit (12) of a switching power supply where said control circuit (12) supplies an activation or deactivation command signal of a power transistor characterised in that it selectively connects the secondary of the transformer ( $W_a$ ) of said switching power supply to said control circuit  
10 (12) after a predefined delay of time ( $T_d$ ) starting from said deactivation command.